

ABSTRACT OF THE INVENTION

The present invention is directed to isolation and identification of plant proanthocyanidin extracts and particular proanthocyanidin compounds for prevention and treatment of urinary tract infections caused by P-type *Escherichia coli*. These extracts can be obtained from any proanthocyanidin-containing plants, including plants of the families Ericaceae, Rosaceae, Pinaceae, Vitaceae and the like. Preferably the extracts are from cranberry plants (especially, *Vaccinium macrocarpon*) and other plants, particularly fruit and berry plants from the *Vaccinium* spp. The extracts and compounds are also provided as pharmaceutical compositions, food additives and food compositions, especially beverages, ground meat preparations and cranberry-containing food products. The invention also relates to methods of reducing pathogenicity of P-type *E. coli* in the digestive tracts of cattle and reducing P-type *E. coli* contamination in ground meat as well as methods of detecting P-type bacteria.